NPIC/TSSG/RED-1859-69
9 October 1969

MEMORANDUM FOR THE RECORD

SUBJECT: Film Distortion Seminar

1. The subject seminar was held in the NPIC Auditorium from 0930 to 1200 on the 8th of October 19 9. It was sponsored by APSD and representatives from [redacted] NPIC, ACIC, TOPOCOM, and DIA were present. (see attached agenda). 25X1

2. The first presentation was an updated version of the [redacted] film distortion study. The following facts represent the highlights of this information. 25X1

a. The distortion was measured through the utilization of a precision grid 55 mm.^{2} with intersections every 5 mm.

b. ON RMS residual distortion 4-5 μ.

c. DP RMS residual distortion, 16 μ (it has been ascertained that this increased distortion occurs during the printing process and is due to the design of the [redacted] Contact Printer). [redacted] has developed a modified [redacted] Breadboard with a "free film path" which appears to reduce the distortion of the DP to that of the ON. However, evaluation of this equipment is not yet complete. 25X1 25X1 25X1

3. It still appears that the [redacted] study, which was primarily oriented to mapping requirements, does not answer the questions we have concerning distortions occurring over very small distances. This was discussed with the [redacted] representatives, [redacted] they will advise me in the near future concerning their recommendations on this matter. 25X1 25X1 25X1

4. The second part of the seminar was given by [redacted] IEG/PHD, concerning the Precision Mensuration Study and [redacted] TSSG/RED/SDB, concerning the High Precision Stereo Comparator. Bill's briefing was good and straight to the point. Some interesting data given by [redacted] follows: 25X1 25X1 25X1

a. 90% of their measurements are over distances less than 400 um. long on the film; 50% of their measurements are less than 50 um. long on the film.

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b. Photogrammetrists differ from each other an average of 11 μ in the process of placing the point on the image terminal. Their actual differences in distance measurements average 3 μ. and their differences in returning to the same point average 2 μ.

5. Our efforts to support their search for knowledge and solutions to the problem areas encountered in the mensuration process are definitely paying off. New ones under consideration which appear to have a vital significance are the technique for consistent pointing and the effects of reticle design.

25X1

[redacted]

Special Assistant for Plans & Applications, RED

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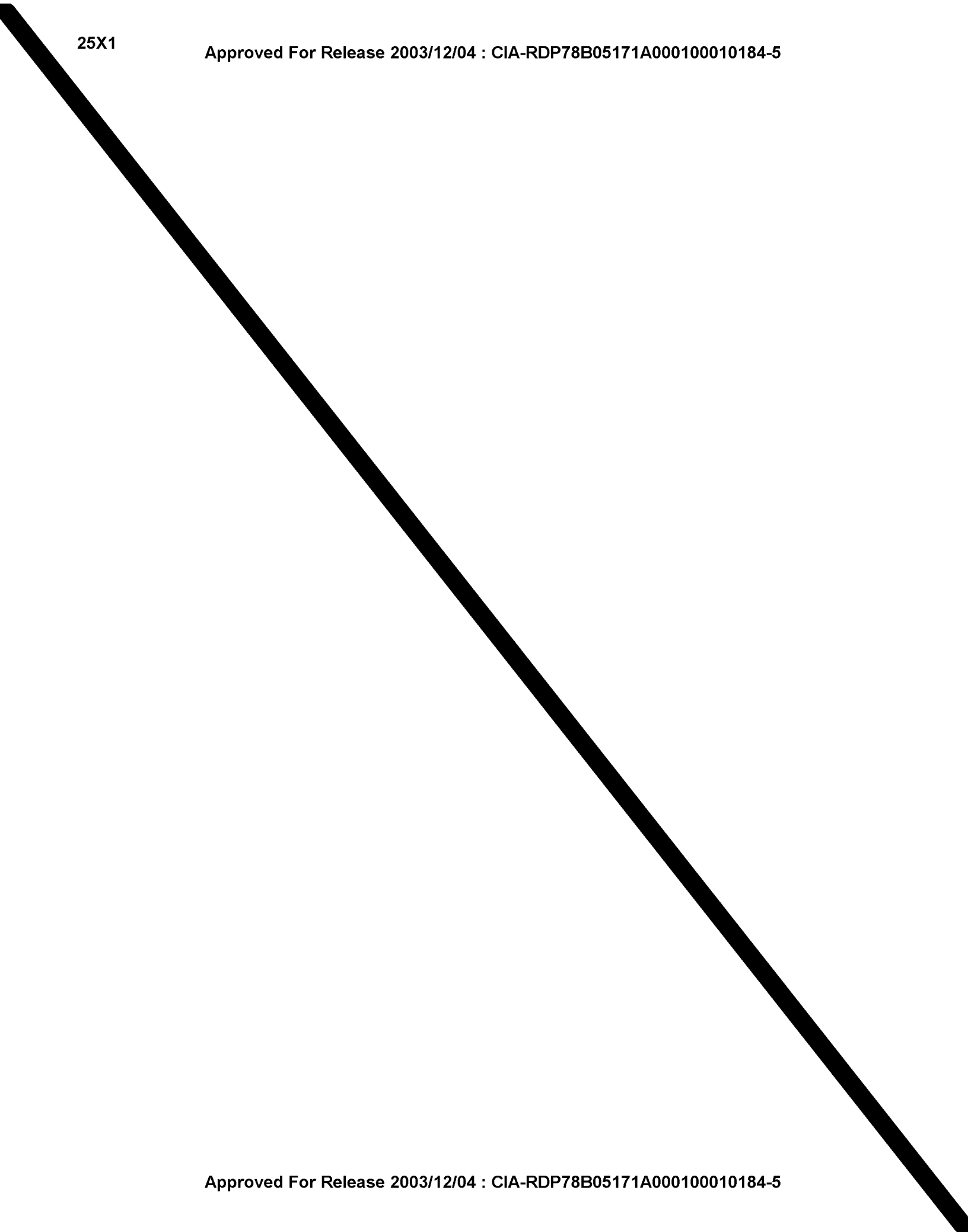

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